



State of Utah

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Department of
Environmental Quality

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Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

FILE COPY

MAR 11 2014

CERTIFIED MAIL
(Return Receipt Requested)

RoJean Rowley, Mayor
Duchesne City
165 South Center
P.O. Box 974
Duchesne, Utah 84021

Dear Mayor Rowley:

Subject: Renewal of UPDES Permit No. UT0020095, Duchesne Wastewater Treatment Lagoons

Enclosed is Utah Pollutant Discharge Elimination System (UPDES) Permit No. UT0020095 for your facility. This permit will become effective March 10, 2014, subject to the right to challenge this decision in accordance with the provisions of *Utah Administrative Code*, Section R317-9.

As the State agency charged with the administration of issuing UPDES Permits, we are continuously looking for ways to improve our quality of service to you. In an effort to improve the State UPDES permitting process we are asking for your input. Since our customer permittee base is limited, your input is important. Please take a few moments to complete the online questionnaire from our website by clicking on the "Give Feedback" link at <http://www.waterquality.utah.gov/index.htm>. The results will be used to improve our quality and responsiveness to our permittees and give us feedback on customer satisfaction. We will address the issues you have identified on an ongoing basis.

If you have any questions with regard to this matter, please contact Lonnie Shull of this office at (801) 536-4394 or via e-mail at lshull@utah.gov.

Sincerely,

Jeff Studenka, Manager
UPDES IES Section

JS:LS:mc

Document Date 3/11/2014



DWQ-2014-003916

- Enclosures (4):
1. Fact Sheet Statement of Basis (DWQ-2013-007540)
 2. Waste Load Analysis (DWQ-2013-007537)
 3. Antidegradation Review (DWQ-2013-007538)
 4. Permit (DWQ-2013-007539)

cc: Amy Clark, U.S. EPA Region VIII (email w/ encl)
Darrin Brown, Tri-County Health Department (w/o encl)
Dianne Miller, Duchesne City (w/o encl)

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**FACT SHEET / STATEMENT OF BASIS
DUCHESNE CITY WASTEWATER TREATMENT LAGOONS
UPDES PERMIT NUMBER: UT0020095
RENEWAL PERMIT
MINOR MUNICIPAL**

FACILITY CONTACT

RoJean Rowley
Mayor, Duchesne City
P.O. Box 974
165 South Center
Duchesne, Utah 84021
Telephone (435) 738-2464

DESCRIPTION OF FACILITY

The Duchesne Wastewater Treatment Facility was last expanded and upgraded in 1988. The facility currently consists of four cell discharging lagoon system with an area totaling approximately 300 ft. by 600 ft., and is designed for organic loadings of 410 lbs/day for Five Day Biochemical Oxygen Demand (BOD₅) and 410 lbs/day for Total Suspended Solids (TSS). Average design flow is 0.42 Million Gallons Per Day (MGD) with a population equivalent of 2400 people. The facility currently serves the City of Duchesne with a current population of about 1700, and is located approximately one mile east of Duchesne at North Latitude 40° 10' 10" and West Longitude 110° 21' 30".

DESCRIPTION OF DISCHARGE

The facility was designed as a total containment lagoon and has been run as such since October 1988 as a result of expansion and upgrades to the system. However, the facility occasionally discharges and DMRs submitted by the permittee indicate these intermittent discharges result in occasional violations of permit limits. The violations were mainly for BOD₅ and TSS percent removal. These violations are a result of chronically low strength influent, which is an indication of inflow and infiltration problems with the collection system.

RECEIVING WATERS AND STREAM CLASSIFICATION

Final discharge is to the Duchesne River classified as 1C, 2B, 3A and 4 according to *Utah Administrative Code (UAC) R317-2-12*:

- | | |
|----------|--|
| Class 1C | -protected for domestic purposes with prior treatment by treatment processes as required by the Utah Department of Health. |
| Class 2B | -protected for secondary contact recreation such as boating, wading or similar uses. |
| Class 3A | -protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain. |
| Class 4 | -protected for agricultural uses including irrigation of crops and stockwatering. |

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD₅), *E. Coli*, pH and percent removal for TSS and BOD₅ are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. Total residual chlorine (TRC) and Dissolved Oxygen (DO) are water quality limited and are based on a Wasteload Analysis. These limitations should be sufficiently protective of water quality in order to meet State water quality standards in the receiving waters.

Discharges from the Duchesne City Wastewater facility eventually reach the Colorado River, which places it within the purview of the Colorado River Basin Salinity Control Forum (CRBSCF). Total dissolved solids (TDS) are limited in loading by the CRBSCF and in February 1977 they produced the "Policy For Implementation of Colorado River Salinity Standards Through the NPDES Permit Program"(Policy). This Policy is still in effect and under Part II (Municipal Discharges) it states, that the effluent shall not exceed the culinary intake (CI) water supply by more than 400 mg/L (TDS). However, the policy also states that the requirements for establishing incremental increases may be waived in those cases where the incremental salt load reaching the main stem of the Colorado River is less than one ton per day or 366 tons per year." The Duchesne City Lagoons are an intermittent discharger, discharging less than 366 tons per year total. Based on this, the facility has requested a waiver in meeting the 400 mg/L incremental increase as indicated in the CRBSCF Policy. As a result, the 400 mg/L incremental increase limitation for TDS has been waived and the TDS loading limitations of one ton per day or 366 tons per year shall apply.

The Wasteload Analysis indicates that seasonal ammonia limits in the range of 154-306 mg/L should be applied (see ADDENDUM), however, since these limits are substantially higher than what should reasonably be expected in the discharge, there will be no effluent limitations or monitoring requirements for this parameter.

Effluent Limitations

Parameter	Effluent Limitations a/			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
BOD ₅ , mg/L	25	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
E-Coli, No./100mL	126	157	NA	NA
TRC, mg/L	NA	NA	NA	0.3
pH, Standard Units	NA	NA	6.5	9.0
TDS, Effluent, mg/l	Report	NA	NA	NA
TDS, Effluent, lbs/day e/	NA	NA	NA	2,000
Dissolved Oxygen, mg/L	≥ 5.0	NA	NA	NA

NA – Not Applicable

SIGNIFICANT CHANGES

There were no significant changes in the permit limits.

SELF-MONITORING AND REPORTING REQUIREMENTS

The following effluent self-monitoring requirements are based on the *Utah Monitoring, Recording and Reporting Frequency Guidelines* as effective December 1, 1991. Reports shall be made on Discharge Monitoring Report (DMR) forms, and are due 28 days after the end of the monitoring month.

Self-Monitoring and Reporting Requirements a/			
Parameter	Frequency	Sample Type	Units
Total Flow b/ c/	Continuous	Recorder	MGD
BOD ₅ Influent d/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
TSS Influent d/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
E. coli	Monthly	Grab	No./100mL
TRC	Monthly	Grab	mg/L
PH	Monthly	Instantaneous	SU
TDS, Effluent e/	Monthly	Grab	mg/L
Dissolved Oxygen	Monthly	Instantaneous	mg/L

- a/ See Permit, *Part V, Definitions*, for definition of terms.
- b/ Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- c/ If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- d/ In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- e/ The total TDS discharged shall be limited to a average of 2,000 lbs/day (one ton per day) or 366 tons per year as a sum total from all discharge points.

STORM WATER REQUIREMENTS

A treatment works facility treating domestic sewage or any other sewage sludge, a wastewater treatment device or system used in the storage, treatment, recycling and reclamation of municipal sewage, and lands dedicated to the disposal of sewage sludge that are located within the confines of the facility is required to submit a Notice of Intent (NOI) specifically for the Utah Pollutant Discharge Elimination System Multi Sector General Permit for Industrial Activities by December 31, 2002, if the treatment facility meets one of the following two criteria; 1) any facility that holds an approved pretreatment program as described in *40CFR Part 403*, or, 2) has a design flow of 1.0

MGD or greater. Duchesne City does not meet the above mentioned criteria required for permit coverage, thus the facility does not need a UPDES Multi Sector General Permit for Industrial Activities at this time.

LEVEL II ANTIDegradation Requirements

Since the facility discharges to a water listed at Class 1C (Drinking water supply), a level II ADR is required. This form is attached to this FSSOB as an attachment.

Pretreatment Requirements

The permittee has not been designated for a pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than one (1) MGD, and there are no categorical industries discharging to the wastewater treatment plant.

Although the permittee does not have a State-approved pretreatment program, any wastewater discharges to the sanitary sewer by industrial users are subject to Federal, State and local pretreatment regulations. Pursuant to *Section 307 of the Clean Water Act*, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in *40 CFR 403* and the State Pretreatment Requirements found in *UAC R317-8-8*.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is recommended that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed. It is required that the permittee submit any local limits that are developed to the Division of Water Quality for review and if needed public notice.

Biomonitoring Requirements

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring)*. Authority to require effluent biomonitoring is provided in *Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3* and *Water Quality Standards, UAC R317-2-5 and R317-2-7.2*.

Based on said Utah guidelines, the Duchesne Wastewater Treatment Facility is not a major municipal discharger and has not been required to develop an industrial pretreatment program. To the best of our knowledge this facility has no significant industrial or categorical industrial users, and

a reasonable potential for toxicity does not exist. In the event of any unforeseen toxicity occurring at the facility the permit does contain a toxicity limitation-reopener provision.

BIOSOLIDS MANAGEMENT REQUIREMENTS

As required by the 1987 amendments to the Federal *Clean Water Act*, EPA has established toxic contaminant criteria and other requirements for sewage sludge use and disposal by works treating domestic sewage. These regulations are found in *Title 40 of the Code of Federal Regulations, Part 503*. The biosolids (sludge) management program was delegated to the State of Utah on June 14, 1996. The 503 regulations are implemented by the issuance of permits, as needed and appropriate.

Because the permitted facility is a lagoon, there is no regular biosolids production. Therefore, the requirements of 503 do not apply unless or until sludge is removed from the bottom of the lagoon and used or disposed of in some way. When planning biosolids removal, the permittee should contact the DWQ for guidance.

PERMIT DURATION

It is recommended that this permit be effective for a period of five (5) years.

PUBLIC NOTICE

The Permit, Fact Sheet and Statement of Basis, wasteload, and Level II Anti-degradation form were public noticed for 30 days in the Vernal Express and on the Utah Division of Water Quality's website. The public notice period started on January 21, 2014 and ended on February 21, 2014. No public comments were received during the comment period.

Drafted by Lonnie Shull
Environmental Scientist
Utah Division of Water Quality
Drafted December 1, 2013

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility: Duchesne Lagoons

UPDES No: UT-0020095

Current Flow: 0.41 MGD

Design Flow: 0.42 MGD

Current flow is intermittent. This value represents flow during months with discharge.

Receiving Water: Duchesne River

Stream Classification: C, 2B, 3A, 4

Stream Flows [cfs]: 84.0 Summer (July-Sept) 20th Percentile value used for all seasons

84.0 Fall (Oct-Dec) 20th Percentile

84.0 Winter (Jan-Mar) 20th Percentile

84.0 Spring (Apr-June) 20th Percentile

381.0 Average

Stream TDS Values: 384.0 Summer (July-Sept) 80th Percentile value used for all seasons

384.0 Fall (Oct-Dec) 80th Percentile

384.0 Winter (Jan-Mar) 80th Percentile

384.0 Spring (Apr-June) 80th Percentile

Effluent Limits:

Flow, MGD: 0.42 MGD

BOD, mg/l: 25.0 Summer

Dissolved Oxygen, mg/l: 5.0 Summer

TNH3, Chronic, mg/l: 153.8 Summer

TDS, mg/l: 106694.5 Summer

WQ Standard:

Design Flow

5.0 Indicator

6.5 30 Day Average

Varies Function of pH and Temperature

1200.0

Modeling Parameters:

Acute River Width: 50.0%

Chronic River Width: 100.0%

Level 1 Antidegradation Level Completed: Level II Review required. Facility Discharges to a 1C drinking water classified waterbody.

Date: 8/5/2012

Permit Writer: _____

WLA by: _____

WQM Sec. Approval: _____

TMDL Sec. Approval: _____

**Utah Division of Water Quality
Salt Lake City, Utah**

**WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis**

5-Aug-12
4:00 PM

Facilities: Duchesne Lagoons
Discharging to: Duchesne River

UPDES No: UT-0020095

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated in terms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Duchesne River:	1C, 2B, 3A, 4
Antidegradation Review:	Level II Antidegradation Review required

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH ₃)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	6.50 mg/l (30 Day Average) 5.00 mg/l (7 Day Average) 4.00 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1200.0 mg/l

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Salt Lake City, Utah**

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	0.305 lbs/day	750.00	ug/l	2.627 lbs/day
Arsenic	190.00 ug/l	0.665 lbs/day	340.00	ug/l	1.191 lbs/day
Cadmium	0.61 ug/l	0.002 lbs/day	6.52	ug/l	0.023 lbs/day
Chromium III	211.92 ug/l	0.742 lbs/day	4433.71	ug/l	15.527 lbs/day
Chromium VI	11.00 ug/l	0.039 lbs/day	16.00	ug/l	0.056 lbs/day
Copper	23.85 ug/l	0.084 lbs/day	39.41	ug/l	0.138 lbs/day
Iron			1000.00	ug/l	3.502 lbs/day
Lead	12.88 ug/l	0.045 lbs/day	330.60	ug/l	1.158 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.008 lbs/day
Nickel	132.13 ug/l	0.463 lbs/day	1188.44	ug/l	4.162 lbs/day
Selenium	4.60 ug/l	0.016 lbs/day	20.00	ug/l	0.070 lbs/day
Silver	N/A ug/l	N/A lbs/day	25.04	ug/l	0.088 lbs/day
Zinc	303.93 ug/l	1.064 lbs/day	303.93	ug/l	1.064 lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO₃

Metals Standards Based upon a Hardness of 300 mg/l as CaCO₃

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aldrin			1.500	ug/l	0.005 lbs/day
Chlordane	0.004 ug/l	1.962 lbs/day	1.200	ug/l	0.004 lbs/day
DDT, DDE	0.001 ug/l	0.456 lbs/day	0.550	ug/l	0.002 lbs/day
Dieldrin	0.002 ug/l	0.867 lbs/day	1.250	ug/l	0.004 lbs/day
Endosulfan	0.056 ug/l	25.551 lbs/day	0.110	ug/l	0.000 lbs/day
Endrin	0.002 ug/l	1.049 lbs/day	0.090	ug/l	0.000 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	1.734 lbs/day	0.260	ug/l	0.001 lbs/day
Lindane	0.080 ug/l	36.501 lbs/day	1.000	ug/l	0.004 lbs/day
Methoxychlor			0.030	ug/l	0.000 lbs/day
Mirex			0.010	ug/l	0.000 lbs/day
Parathion			0.040	ug/l	0.000 lbs/day
PCB's	0.014 ug/l	6.388 lbs/day	2.000	ug/l	0.007 lbs/day
Pentachlorophenol	13.00 ug/l	5931.407 lbs/day	20.000	ug/l	0.070 lbs/day
Toxephene	0.0002 ug/l	0.091 lbs/day	0.7300	ug/l	0.003 lbs/day

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	lbs/day
Cadmium			10.0 ug/l	0.02 lbs/day

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Salt Lake City, Utah**

Chromium	100.0 ug/l	lbs/day
Copper	200.0 ug/l	lbs/day
Lead	100.0 ug/l	lbs/day
Selenium	50.0 ug/l	lbs/day
TDS, Summer	1200.0 mg/l	2.10 tons/day

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

Metals	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			ug/l	lbs/day
Barium			ug/l	lbs/day
Cadmium			ug/l	lbs/day
Chromium			ug/l	lbs/day
Lead			ug/l	lbs/day
Mercury			ug/l	lbs/day
Selenium			ug/l	lbs/day
Silver			ug/l	lbs/day
Fluoride (3)			ug/l	lbs/day
to			ug/l	lbs/day
Nitrates as N			ug/l	lbs/day

Chlorophenoxy Herbicides

2,4-D	ug/l	lbs/day
2,4,5-TP	ug/l	lbs/day
Endrin	ug/l	lbs/day
ocyclohexane (Lindane)	ug/l	lbs/day
Methoxychlor	ug/l	lbs/day
Toxaphene	ug/l	lbs/day

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

Toxic Organics	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	ug/l	lbs/day	2700.0 ug/l	1231.91 lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	355.88 lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	0.30 lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	32.39 lbs/day
Benzidine	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	ug/l	lbs/day	4.4 ug/l	2.01 lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	9581.50 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	ug/l	lbs/day	99.0 ug/l	45.17 lbs/day
1,1,1-Trichloroethane				
Hexachloroethane	ug/l	lbs/day	8.9 ug/l	4.06 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	ug/l	lbs/day	42.0 ug/l	19.16 lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day	11.0 ug/l	5.02 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day

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Bis(2-chloroethyl) ether	ug/l	lbs/day	1.4 ug/l	0.64 lbs/day
2-Chloroethyl vinyl ether	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	ug/l	lbs/day	4300.0 ug/l	1961.93 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5 ug/l	2.97 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0 ug/l	214.44 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0 ug/l	182.50 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0 ug/l	7756.46 lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	1186.28 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	1186.28 lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day	0.1 ug/l	0.04 lbs/day
1,1-Dichloroethylene	ug/l	lbs/day	3.2 ug/l	1.46 lbs/day
1,2-trans-Dichloroethylene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	790.0 ug/l	360.45 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0 ug/l	17.79 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0 ug/l	775.65 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0 ug/l	1049.40 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1 ug/l	4.15 lbs/day
2,6-Dinitrotoluene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	ug/l	lbs/day	0.5 ug/l	0.25 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0 ug/l	13231.60 lbs/day
Fluoranthene	ug/l	lbs/day	370.0 ug/l	168.82 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) ether	ug/l	lbs/day	170000.0 ug/l	77564.56 lbs/day
Bis(2-chloroethoxy) methane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM)	ug/l	lbs/day	1600.0 ug/l	730.02 lbs/day
Methyl chloride (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	ug/l	lbs/day	360.0 ug/l	164.25 lbs/day
Dichlorobromomethane	ug/l	lbs/day	22.0 ug/l	10.04 lbs/day
Chlorodibromomethane	ug/l	lbs/day	34.0 ug/l	15.51 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0 ug/l	22.81 lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day	17000.0 ug/l	7756.46 lbs/day
Isophorone	ug/l	lbs/day	600.0 ug/l	273.76 lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	1900.0 ug/l	866.90 lbs/day
2-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	ug/l	lbs/day	14000.0 ug/l	6387.67 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0 ug/l	349.04 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1 ug/l	3.70 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0 ug/l	7.30 lbs/day
N-Nitrosodi-n-propylamine	ug/l	lbs/day	1.4 ug/l	0.64 lbs/day
Pentachlorophenol	ug/l	lbs/day	8.2 ug/l	3.74 lbs/day
Phenol	ug/l	lbs/day	4.6E+06 ug/l	2.10E+06 lbs/day
Bis(2-ethylhexyl)phthalate	ug/l	lbs/day	5.9 ug/l	2.69 lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0 ug/l	2372.56 lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0 ug/l	5475.15 lbs/day
Di-n-octyl phthalate				
Diethyl phthalate	ug/l	lbs/day	120000.0 ug/l	54751.45 lbs/day

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Dimethyl phthlate	ug/l	lbs/day	2.9E+06 ug/l	1.32E+06 lbs/day
Benzo(a)anthracene (P/	ug/l	lbs/day	0.0 ug/l	0.01 lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day	0.0 ug/l	0.01 lbs/day
Benzo(b)fluoranthene (F	ug/l	lbs/day	0.0 ug/l	0.01 lbs/day
Benzo(k)fluoranthene (F	ug/l	lbs/day	0.0 ug/l	0.01 lbs/day
Chrysene (PAH)	ug/l	lbs/day	0.0 ug/l	0.01 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	ug/l	lbs/day	0.0 ug/l	0.01 lbs/day
Indeno(1,2,3-cd)pyrene	ug/l	lbs/day	0.0 ug/l	0.01 lbs/day
Pyrene (PAH)	ug/l	lbs/day	11000.0 ug/l	5018.88 lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9 ug/l	4.06 lbs/day
Toluene	ug/l	lbs/day	200000.0 ug/l	91252.42 lbs/day
Trichloroethylene	ug/l	lbs/day	81.0 ug/l	36.96 lbs/day
Vinyl chloride	ug/l	lbs/day	525.0 ug/l	239.54 lbs/day
				lbs/day
Pesticides				lbs/day
Aldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.91 lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.91 lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0 ug/l	0.91 lbs/day
Endrin	ug/l	lbs/day	0.8 ug/l	0.37 lbs/day
Endrin aldehyde	ug/l	lbs/day	0.8 ug/l	0.37 lbs/day
Heptachlor	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 101	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	ug/l		0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	ug/l	lbs/day		
Metals				
Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	4300.00 ug/l	1961.93 lbs/day
Asbestos	ug/l	lbs/day		

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Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	100377.66 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.07 lbs/day
Nickel			4600.00 ug/l	2098.81 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	2.87 lbs/day
Zinc				

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

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The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD)	D.O. mg/l
Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l
pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Current Upstream Information

Current Upstream Information								
	Stream Critical Low Flow	Temp.	pH	T-NH3	BOD5	DO	TRC	TDS
	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l
Summer (Irrig. Season)	84.0	20.0	8.2	0.10	0.50	6.66	0.00	384.0
Fall	84.0	12.0	8.1	0.10	0.50	---	0.00	384.0
Winter	84.0	4.0	8.0	0.10	0.50	---	0.00	384.0
Spring	84.0	12.0	8.1	0.10	0.50	---	0.00	384.0
Dissolved Metals	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.83*	0.53*
Dissolved Metals	Hg	Ni	Se	Ag	Zn	Boron		
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
All Seasons	0.0000	0.53*	1.06*	0.1*	0.053*	10.0		* 1/2 MDL

* 1/2 MDL

Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	0.42000	17.0	1240.00	2.17130
Fall	0.42000	15.0		
Winter	0.42000	12.0		
Spring	0.42000	15.0		

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

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IX. Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	0.420 MGD	0.650 cfs
Fall	0.420 MGD	0.650 cfs
Winter	0.420 MGD	0.650 cfs
Spring	0.420 MGD	0.650 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.42 MGD. If the discharger is allowed to have a flow greater than 0.42 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segments if the values below are met.

WET Requirements	LC50 >	5.2% Effluent	[Acute]
	IC25 >	0.8% Effluent	[Chronic]

Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration	
Summer	25.0 mg/l as BOD5	87.6 lbs/day
Fall	25.0 mg/l as BOD5	87.6 lbs/day
Winter	25.0 mg/l as BOD5	87.6 lbs/day
Spring	25.0 mg/l as BOD5	87.6 lbs/day

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Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	Concentration
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	153.8 mg/l as N	538.6 lbs/day
	1 Hour Avg. - Acute	171.1 mg/l as N	599.1 lbs/day
Fall	4 Day Avg. - Chronic	262.6 mg/l as N	919.8 lbs/day
	1 Hour Avg. - Acute	204.7 mg/l as N	716.9 lbs/day
Winter	4 Day Avg. - Chronic	305.6 mg/l as N	1,070.3 lbs/day
	1 Hour Avg. - Acute	245.1 mg/l as N	858.4 lbs/day
Spring	4 Day Avg. - Chronic	262.6 mg/l as N	0.0 lbs/day
	1 Hour Avg. - Acute	204.7 mg/l as N	0.0 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50.%.

Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	1.433 mg/l	5.02 lbs/day
	1 Hour Avg. - Acute	1.247 mg/l	4.37 lbs/day
Fall	4 Day Avg. - Chronic	1.433 mg/l	5.02 lbs/day
	1 Hour Avg. - Acute	1.247 mg/l	4.37 lbs/day
Winter	4 Day Avg. - Chronic	1.433 mg/l	5.02 lbs/day
	1 Hour Avg. - Acute	1.247 mg/l	4.37 lbs/day
Spring	4 Day Avg. - Chronic	1.433 mg/l	0.00 lbs/day
	1 Hour Avg. - Acute	1.247 mg/l	0.00 lbs/day

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Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration	Load
Summer	Maximum, Acute	106694.5 mg/l	186.83 tons/day
Fall	Maximum, Acute	106694.5 mg/l	186.83 tons/day
Winter	Maximum, Acute	106694.5 mg/l	186.83 tons/day
Spring	4 Day Avg. - Chronic	106694.5 mg/l	186.83 tons/day
Colorado Salinity Form Limits		Determined by Permitting Section	

**Effluent Limitations for Total Recoverable Metals based upon
Water Quality Standards**

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 300 mg/l):

4 Day Average			1 Hour Average		
	Concentration	Load		Concentration	Load
Aluminum	N/A	N/A	49,076.8	ug/l	171.9 lbs/day
Arsenic	##### ug/l	55.8 lbs/day	22,266.6	ug/l	78.0 lbs/day
Cadmium	69.29 ug/l	0.2 lbs/day	422.7	ug/l	1.5 lbs/day
Chromium III	##### ug/l	62.3 lbs/day	290,982.9	ug/l	1019.1 lbs/day
Chromium VI	919.21 ug/l	2.1 lbs/day	793.3	ug/l	2.8 lbs/day
Copper	3,004.76 ug/l	6.8 lbs/day	2,535.7	ug/l	8.9 lbs/day
Iron	N/A	N/A	65,560.4	ug/l	229.6 lbs/day
Lead	1,575.66 ug/l	3.6 lbs/day	21,649.6	ug/l	75.8 lbs/day
Mercury	1.56 ug/l	0.0 lbs/day	157.5	ug/l	0.6 lbs/day
Nickel	##### ug/l	38.7 lbs/day	77,959.2	ug/l	273.0 lbs/day
Selenium	393.74 ug/l	0.9 lbs/day	1,210.0	ug/l	4.2 lbs/day
Silver	N/A ug/l	N/A lbs/day	1,643.7	ug/l	5.8 lbs/day
Zinc	##### ug/l	89.6 lbs/day	19,945.5	ug/l	69.9 lbs/day
Cyanide	677.47 ug/l	1.5 lbs/day	1,444.1	ug/l	5.1 lbs/day

**Effluent Limitations for Heat/Temperature based upon
Water Quality Standards**

Summer	100.0 Deg. C.	212.0 Deg. F
Fall	100.0 Deg. C.	212.0 Deg. F
Winter	100.0 Deg. C.	212.0 Deg. F
Spring	100.0 Deg. C.	212.0 Deg. F

**Effluent Limitations for Organics [Pesticides]
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Organics [Pesticides]

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will be met with an effluent limit as follows:

	4 Day Average		1 Hour Average	
	Concentration	Load	Concentration	Load
Aldrin			1.5E+00 ug/l	8.13E-03 lbs/day
Chlordane	4.30E-03 ug/l	1.51E-02 lbs/day	1.2E+00 ug/l	6.50E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	3.50E-03 lbs/day	5.5E-01 ug/l	2.98E-03 lbs/day
Dieldrin	1.90E-03 ug/l	6.65E-03 lbs/day	1.3E+00 ug/l	6.77E-03 lbs/day
Endosulfan	5.60E-02 ug/l	1.96E-01 lbs/day	1.1E-01 ug/l	5.96E-04 lbs/day
Endrin	2.30E-03 ug/l	8.05E-03 lbs/day	9.0E-02 ug/l	4.88E-04 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02 ug/l	5.42E-05 lbs/day
Heptachlor	3.80E-03 ug/l	1.33E-02 lbs/day	2.6E-01 ug/l	1.41E-03 lbs/day
Lindane	8.00E-02 ug/l	2.80E-01 lbs/day	1.0E+00 ug/l	5.42E-03 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02 ug/l	1.63E-04 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02 ug/l	5.42E-05 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02 ug/l	2.17E-04 lbs/day
PCB's	1.40E-02 ug/l	4.90E-02 lbs/day	2.0E+00 ug/l	1.08E-02 lbs/day
Pentachlorophenol	1.30E+01 ug/l	4.55E+01 lbs/day	2.0E+01 ug/l	1.08E-01 lbs/day
Toxephene	2.00E-04 ug/l	7.00E-04 lbs/day	7.3E-01 ug/l	3.95E-03 lbs/day

**Effluent Targets for Pollution Indicators
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Pollution Indicators would be met by achieving the following effluent targets

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	17.5 lbs/day
Nitrates as N	4.0 mg/l	14.0 lbs/day
Total Phosphorus as P	0.05 mg/l	0.2 lbs/day
Total Suspended Solids	90.0 mg/l	315.2 lbs/day

Note: Pollution indicator targets are for information purposes only.

**Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)**

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

Toxic Organics	Maximum Concentration	
	Concentration	Load
Acenaphthene	3.52E+05 ug/l	1.23E+03 lbs/day
Acrolein	1.02E+05 ug/l	3.56E+02 lbs/day
Acrylonitrile	8.60E+01 ug/l	3.01E-01 lbs/day

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Benzene	9.25E+03 ug/l	3.24E+01 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	5.73E+02 ug/l	2.01E+00 lbs/day
Chlorobenzene	2.74E+06 ug/l	9.58E+03 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	1.00E-01 ug/l	3.51E-04 lbs/day
1,2-Dichloroethane	1.29E+04 ug/l	4.52E+01 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	1.16E+03 ug/l	4.06E+00 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	5.47E+03 ug/l	1.92E+01 lbs/day
1,1,2,2-Tetrachloroethane	1.43E+03 ug/l	5.02E+00 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	1.82E+02 ug/l	6.39E-01 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	5.60E+05 ug/l	1.96E+03 lbs/day
2,4,6-Trichlorophenol	8.47E+02 ug/l	2.97E+00 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	6.12E+04 ug/l	2.14E+02 lbs/day
2-Chlorophenol	5.21E+04 ug/l	1.83E+02 lbs/day
1,2-Dichlorobenzene	2.21E+06 ug/l	7.76E+03 lbs/day
1,3-Dichlorobenzene	3.39E+05 ug/l	1.19E+03 lbs/day
1,4-Dichlorobenzene	3.39E+05 ug/l	1.19E+03 lbs/day
3,3'-Dichlorobenzidine	1.00E+01 ug/l	3.51E-02 lbs/day
1,1-Dichloroethylene	4.17E+02 ug/l	1.46E+00 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	1.03E+05 ug/l	3.60E+02 lbs/day
1,2-Dichloropropane	5.08E+03 ug/l	1.78E+01 lbs/day
1,3-Dichloropropylene	2.21E+05 ug/l	7.76E+02 lbs/day
2,4-Dimethylphenol	3.00E+05 ug/l	1.05E+03 lbs/day
2,4-Dinitrotoluene	1.19E+03 ug/l	4.15E+00 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	7.04E+01 ug/l	2.46E-01 lbs/day
Ethylbenzene	3.78E+06 ug/l	1.32E+04 lbs/day
Fluoranthene	4.82E+04 ug/l	1.69E+02 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	2.21E+07 ug/l	7.76E+04 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	2.08E+05 ug/l	7.30E+02 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	4.69E+04 ug/l	1.64E+02 lbs/day
Dichlorobromomethane(HM)	2.87E+03 ug/l	1.00E+01 lbs/day
Chlorodibromomethane (HM)	4.43E+03 ug/l	1.55E+01 lbs/day
Hexachlorocyclopentadiene	2.21E+06 ug/l	7.76E+03 lbs/day
Isophorone	7.82E+04 ug/l	2.74E+02 lbs/day
Naphthalene		
Nitrobenzene	2.48E+05 ug/l	8.67E+02 lbs/day
2-Nitrophenol		
4-Nitrophenol		

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2,4-Dinitrophenol	1.82E+06 ug/l	6.39E+03 lbs/day
4,6-Dinitro-o-cresol	9.97E+04 ug/l	3.49E+02 lbs/day
N-Nitrosodimethylamine	1.06E+03 ug/l	3.70E+00 lbs/day
N-Nitrosodiphenylamine	2.08E+03 ug/l	7.30E+00 lbs/day
N-Nitrosodi-n-propylamine	1.82E+02 ug/l	6.39E-01 lbs/day
Pentachlorophenol	1.07E+03 ug/l	3.74E+00 lbs/day
Phenol	5.99E+08 ug/l	2.10E+06 lbs/day
Bis(2-ethylhexyl)phthalate	7.69E+02 ug/l	2.69E+00 lbs/day
Butyl benzyl phthalate	6.77E+05 ug/l	2.37E+03 lbs/day
Di-n-butyl phthalate	1.56E+06 ug/l	5.48E+03 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	1.56E+07 ug/l	5.48E+04 lbs/day
Dimethyl phthlate	3.78E+08 ug/l	1.32E+06 lbs/day
Benzo(a)anthracene (PAH)	4.04E+00 ug/l	1.41E-02 lbs/day
Benzo(a)pyrene (PAH)	4.04E+00 ug/l	1.41E-02 lbs/day
Benzo(b)fluoranthene (PAH)	4.04E+00 ug/l	1.41E-02 lbs/day
Benzo(k)fluoranthene (PAH)	4.04E+00 ug/l	1.41E-02 lbs/day
Chrysene (PAH)	4.04E+00 ug/l	1.41E-02 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	4.04E+00 ug/l	1.41E-02 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	4.04E+00 ug/l	1.41E-02 lbs/day
Pyrene (PAH)	1.43E+06 ug/l	5.02E+03 lbs/day
Tetrachloroethylene	1.16E+03 ug/l	4.06E+00 lbs/day
Toluene	2.61E+07 ug/l	9.13E+04 lbs/day
Trichloroethylene	1.06E+04 ug/l	3.70E+01 lbs/day
Vinyl chloride	6.84E+04 ug/l	2.40E+02 lbs/day

Pesticides

Aldrin	1.82E-02 ug/l	6.39E-05 lbs/day
Dieldrin	1.82E-02 ug/l	6.39E-05 lbs/day
Chlordane	7.69E-02 ug/l	2.69E-04 lbs/day
4,4'-DDT	7.69E-02 ug/l	2.69E-04 lbs/day
4,4'-DDE	7.69E-02 ug/l	2.69E-04 lbs/day
4,4'-DDD	1.09E-01 ug/l	3.83E-04 lbs/day
alpha-Endosulfan	2.61E+02 ug/l	9.13E-01 lbs/day
beta-Endosulfan	2.61E+02 ug/l	9.13E-01 lbs/day
Endosulfan sulfate	2.61E+02 ug/l	9.13E-01 lbs/day
Endrin	1.06E+02 ug/l	3.70E-01 lbs/day
Endrin aldehyde	1.06E+02 ug/l	3.70E-01 lbs/day
Heptachlor	2.74E-02 ug/l	9.58E-05 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	5.86E-03 ug/l	2.05E-05 lbs/day
PCB-1254 (Arochlor 1254)	5.86E-03 ug/l	2.05E-05 lbs/day
PCB-1221 (Arochlor 1221)	5.86E-03 ug/l	2.05E-05 lbs/day
PCB-1232 (Arochlor 1232)	5.86E-03 ug/l	2.05E-05 lbs/day
PCB-1248 (Arochlor 1248)	5.86E-03 ug/l	2.05E-05 lbs/day
PCB-1260 (Arochlor 1260)	5.86E-03 ug/l	2.05E-05 lbs/day
PCB-1016 (Arochlor 1016)	5.86E-03 ug/l	2.05E-05 lbs/day

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Salt Lake City, Utah**

Pesticide		
Toxaphene	9.77E-02 ug/l	3.42E-04 lbs/day
Metals		
Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		
Dioxin		
Dioxin (2,3,7,8-TCDD)	1.82E-06 ug/l	6.39E-09 lbs/day

**Metals Effluent Limitations for Protection of All Beneficial Uses
Based upon Water Quality Standards and Toxics Rule**

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		49076.8				49076.8	N/A
Antimony				560214.7		560214.7	
Arsenic	13028.2	22266.6			0.0	13028.2	24650.9
Barium						0.0	
Beryllium						0.0	
Cadmium	1292.5	422.7			0.0	422.7	69.3
Chromium (III)		290982.9			0.0	290982.9	27506.3
Chromium (VI)	12925.5	793.3			0.0	793.31	919.21
Copper	25953.7	2535.7				2535.7	3004.8
Cyanide		1444.1	28662146.1			1444.1	677.5
Iron		65560.4				65560.4	
Lead	12925.5	21649.6			0.0	12925.5	1575.7
Mercury		157.54		19.54	0.0	19.54	1.563
Nickel		77959.2		599299.4		77959.2	17111.6

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Selenium	6308.6	1210.0	0.0	1210.0	393.7
Silver		1643.7	0.0	1643.7	
Thallium			820.8	820.8	
Zinc		19945.5		19945.5	39587.0
Boron	97711.9			97711.9	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]

[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	49076.8	N/A	
Antimony	560214.67		
Arsenic	13028.2	24650.9	Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	422.7	69.3	
Chromium (III)	290982.9	27506	
Chromium (VI)	793.3	919.2	Acute Controls
Copper	2535.7	3004.8	Acute Controls
Cyanide	1444.1	677.5	
Iron	65560.4		
Lead	12925.5	1575.7	
Mercury	19.542	1.563	
Nickel	77959.2	17112	
Selenium	1210.0	393.7	
Silver	1643.7	N/A	
Thallium	820.8		
Zinc	19945.5	39587.0	Acute Controls
Boron	97711.86		

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

**Utah Division of Water Quality
Salt Lake City, Utah**

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that a Level II antidegradation Review is required as the facility discharge to a 1C classified waterbody

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

XII. Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important downstream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised.

XIV. Special Considerations - TMDL

The Duchesne Lagoons discharge to a segment of the Duchesne River that is neither 303(d) listed or has a completed TMDL. Downstream segments (Duchesne River - Randlett to Myton and Duchesne River confluence with the Green River to Randelette) are 303(d) listed for total dissolved solids (TDS). Total maximum daily loads for TDS were completed for both segments on March 21, 2006. The TMDL did not give a specific wasteload allocation to the Duchesne Lagoons, but applied the default Colorado River Salinity Forum policy, which states that the effluent shall not exceed the culinary intake water supply by more than 400 mg/l TDS as a monthly average or a load limit of less than 1 ton per day. Permit inflow/outflow and TDS concentration monitoring requirements should be adequate to demonstrate compliance with this requirement and should be tailored to capture the intermittent nature of lagoon discharges.

Prepared by:
David Wham
Utah Division of Water Quality
801-538-6052
File Name: Duchesne_Lagoons_WLA_8-5-12

APPENDIX - Coefficients and Other Model Information

**Utah Division of Water Quality
Salt Lake City, Utah**

CBOD Coeff. (Kd)20 1/day 1.000	CBOD Coeff. FORCED (Kd)/day 0.000	CBOD Coeff. (Ka)T 1/day 1.000	REAER. Coeff. (Ka)20 (Ka)/day 8.498	REAER. Coeff. FORCED 1/day 0.000	REAER. Coeff. (Ka)T 1/day 8.498	NBOD Coeff. (Kn)20 1/day 0.400	NBOD Coeff. (Kn)T 1/day 0.400
Open Coeff. (K4)20 1/day 0.000	Open Coeff. (K4)T 1/day 0.000	NH3 LOSS (K5)20 1/day 4.000	NH3 (K5)T 1/day 4.000	NO2+NO3 LOSS (K6)20 1/day 0.000	NO2+NO3 (K6)T 1/day 0.000	TRC Decay K(Cl)20 1/day 32.000	TRC K(Cl)(T) 1/day 32.000
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 1.000						
K1 CBOD {theta} 1.0	K2 Reaer. {theta} 1.0	K3 NH3 {theta} 1.1	K4 Open {theta} 1.0	K5 NH3 Loss {theta} 1.0	K6 NO2+3 {theta} 1.0	K(Cl) TRC {theta} 1.1	S Benthic {theta} 1.1

ANTIDEGRADATION REVIEW FORM

UTAH DIVISION OF WATER QUALITY

Instructions

The objective of antidegradation rules and policies is to protect existing high quality waters and set forth a process for determining where and how much degradation is allowable for socially and/or economically important reasons. In accordance with Utah Administrative Code (UAC R317-2-3), an antidegradation review (ADR) is a permit requirement for any project that will increase the level of pollutants in waters of the state. The rule outlines requirements for both Level I and Level II ADRs, as well as public comment procedures. This review form is intended to assist the applicant and Division of Water Quality (DWQ) staff in complying with the rule but is not a substitute for the complete rule in R317-2-3.5. Additional details can be found in the *Utah Antidegradation Implementation Guidance* and relevant sections of the guidance are cited in this review form.

ADRs should be among the first steps of an application for a UPDES permit because the review helps establish treatment expectations. The level of effort and amount of information required for the ADR depends on the nature of the project and the characteristics of the receiving water. To avoid unnecessary delays in permit issuance, the Division of Water Quality (DWQ) recommends that the process be initiated at least one year prior to the date a final approved permit is required.

DWQ will determine if the project will impair beneficial uses (Level I ADR) using information provided by the applicant and whether a Level II ADR is required. The applicant is responsible for conducting the Level II ADR. For the permit to be approved, the Level II ADR must document that all feasible measures have been undertaken to minimize pollution for socially, environmentally or economically beneficial projects resulting in an increase in pollution to waters of the state.

For permits requiring a Level II ADR, this antidegradation form must be completed and approved by DWQ before any UPDES permit can be issued. Typically, the ADR form is completed in an iterative manner in consultation with DWQ. The applicant should first complete the statement of social, environmental and economic importance (SEEI) in Part C and determine the parameters of concern (POC) in Part D. Once the POCs are agreed upon by DWQ, the alternatives analysis and selection of preferred alternative in Part E can be conducted based on minimizing degradation resulting from discharge of the POCs. Once the applicant and DWQ agree upon the preferred alternative, the review is considered complete, and the form must be signed, dated, and submitted to DWQ.

For additional clarification on the antidegradation review process and procedures, please contact Nicholas von Stackelberg (801-536-4374) or Jeff Ostermiller (801-536-4370).

Antidegradation Review Form

Part A: Applicant Information

Facility Name: Duchesne City Wastewater Treatment Lagoons

Facility Owner: Duchesne City, Ut

Facility Location: Duchesne City, Ut

Form Prepared By: LNSIII

Outfall Number: Outfall 001

Receiving Water: Duchesne River

What Are the Designated Uses of the Receiving Water (R317-2-6)?

Domestic Water Supply: 1C
Recreation: 2B - Secondary Contact
Aquatic Life: 3A - Cold Water Aquatic Life
Agricultural Water Supply: 4
Great Salt Lake: None

Category of Receiving Water (R317-2-3.2, -3.3, and -3.4): Category 2

UPDES Permit Number (if applicable): UT0020095

Effluent Flow Reviewed: 0.42 MGD

Typically, this should be the maximum daily discharge at the design capacity of the facility. Exceptions should be noted.

What is the application for? (check all that apply)

- ☐ A UPDES permit for a new facility, project, or outfall.
- ☐ A UPDES permit renewal with an expansion or modification of an existing wastewater treatment works.
- ☐ A UPDES permit renewal requiring limits for a pollutant not covered by the previous permit and/or an increase to existing permit limits.
- ☒ A UPDES permit renewal with no changes in facility operations.

Part B. Is a Level II ADR required?

This section of the form is intended to help applicants determine if a Level II ADR is required for specific permitted activities. In addition, the Executive Secretary may require a Level II ADR for an activity with the potential for major impact on the quality of waters of the state (R317-2-3.5a.1).

B1. The receiving water or downstream water is a Class 1C drinking water source.

☒ **Yes** A Level II ADR is required (Proceed to Part C of the Form)

☐ **No** (Proceed to Part B2 of the Form)

B2. The UPDES permit is new or is being renewed and the proposed effluent concentration and loading limits are higher than the concentration and loading limits in the previous permit and any previous antidegradation review(s).

☐ **Yes** (Proceed to Part B3 of the Form)

☐ **No** No Level II ADR is required and there is no need to proceed further with review questions.

B3. Will any pollutants use assimilative capacity of the receiving water, i.e. do the pollutant concentrations in the effluent exceed those in the receiving waters at critical conditions? For most pollutants, effluent concentrations that are higher than the ambient concentrations require an antidegradation review? For a few pollutants such as dissolved oxygen, an antidegradation review is required if the effluent concentrations are less than the ambient concentrations in the receiving water. (Section 3.3.3 of Implementation Guidance)

☐ **Yes** (Proceed to Part B4 of the Form)

☐ **No** No Level II ADR is required and there is no need to proceed further with review questions.

B4. Are water quality impacts of the proposed project temporary and limited (Section 3.3.4 of Implementation Guidance)? Proposed projects that will have temporary and limited effects on water quality can be exempted from a Level II ADR.

☐ **Yes** Identify the reasons used to justify this determination in Part B4.1 and proceed to Part G. No Level II ADR is required.

☐ **No** A Level II ADR is required (Proceed to Part C)

B4.1 Complete this question only if the applicant is requesting a Level II review exclusion for temporary and limited projects (see R317-2-3.5(b)(3) and R317-2-3.5(b)(4)). For projects requesting a temporary and limited exclusion please indicate the factor(s) used to justify this determination (check all that apply and provide details as appropriate) (Section 3.3.4 of Implementation Guidance):

☐ Water quality impacts will be temporary and related exclusively to sediment or turbidity and fish spawning will not be impaired.

Factors to be considered in determining whether water quality impacts will be temporary and limited:

- a) The length of time during which water quality will be lowered:
- b) The percent change in ambient concentrations of pollutants:
- c) Pollutants affected:
- d) Likelihood for long-term water quality benefits:
- e) Potential for any residual long-term influences on existing uses:
- f) Impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts:

Additional justification, as needed:

Level II ADR

Part C, D, E, and F of the form constitute the Level II ADR Review. The applicant must provide as much detail as necessary for DWQ to perform the antidegradation review. Questions are provided for the convenience of applicants; however, for more complex permits it may be more effective to provide the required information in a separate report. Applicants that prefer a separate report should record the report name here and proceed to Part G of the form.

Optional Report Name:

Part C. Is the degradation from the project socially and economically necessary to accommodate important social or economic development in the area in which the waters are located? *The applicant must provide as much detail as necessary for DWQ to concur that the project is socially and economically necessary when answering the questions in this section. More information is available in Section 6.2 of the Implementation Guidance.*

C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.

This is an existing wastewater treatment lagoon that treats domestic wastewater for Duchesne City Utah. The existence of the facility allows for jobs and local development for Duchesne City, Utah. The facility is necessary for economic and social growth in the community.

C2. Describe any environmental benefits to be realized through implementation of the proposed project.

Impacts to the environment will be lower with the existing POTW than without it.

C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.

The facility is already existing. There are no anticipated economic losses or impacts from the project.

C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.

As previously stated, the facility is already built and operating. This Antidegradation review is necessary because the facility discharges to a waterbody listed as a drinking water supply. There will be no decrease in assimilative capacity beyond what already exists.

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

No new structures will be placed within or adjacent to the receiving water.

Part D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern. *Parameters of concern are parameters in the effluent at concentrations greater than ambient concentrations in the receiving water. The applicant is responsible for identifying parameter concentrations in the effluent and DWQ will provide parameter concentrations for the receiving water. More information is available in Section 3.3.3 of the Implementation Guidance.*

Parameters of Concern:

Rank	Pollutant	Ambient Concentration	Effluent Concentration
1	5 Day Biological Oxygen Demand		25 mg/L
2	Total Suspended Solids		25 mg/L
3	E. coli		157 col/100 mL
4			
5			

Pollutants Evaluated that are not Considered Parameters of Concern:

Pollutant	Ambient Concentration	Effluent Concentration	Justification

Part E. Alternative Analysis Requirements of a Level II

Antidegradation Review. *Level II ADRs require the applicant to determine whether there are feasible less-degrading alternatives to the proposed project. More information is available in Section 5.5 and 5.6 of the Implementation Guidance.*

E1. The UPDES permit is being renewed without any changes to flow or concentrations. Alternative treatment and discharge options including changes to operations and maintenance were considered and compared to the current processes. No economically feasible treatment or discharge alternatives were identified that were not previously considered for any previous antidegradation review(s).

☒ **Yes** (Proceed to Part F)

☐ **No or Does Not Apply** (Proceed to E2)

E2. Attach as an appendix to this form a report that describes the following factors for all alternative treatment options (see 1) a technical description of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.

Report Name:

E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLA) and any secondary or categorical effluent limits.

E4. Were any of the following alternatives feasible and affordable?

Alternative	Feasible	Reason Not Feasible/Affordable
Pollutant Trading	Yes	
Water Recycling/Reuse	Yes	
Land Application	Yes	
Connection to Other Facilities	Yes	
Upgrade to Existing Facility	Yes	
Total Containment	Yes	
Improved O&M of Existing Systems	Yes	
Seasonal or Controlled Discharge	Yes	
New Construction	Yes	
No Discharge	Yes	

E5. From the applicant's perspective, what is the preferred treatment option?

E6. Is the preferred option also the least polluting feasible alternative?

☐ Yes

☐ No

If no, what were less degrading feasible alternative(s)?

If no, provide a summary of the justification for not selecting the least polluting feasible alternative and if appropriate, provide a more detailed justification as an attachment.

Part F. Optional Information

F1. Does the applicant want to conduct optional public review(s) in addition to the mandatory public review? Level II ADRs are public noticed for a thirty day comment period. More information is available in Section 3.7.1 of the Implementation Guidance.

☒ No

☐ Yes

F2. Does the project include an optional mitigation plan to compensate for the proposed water quality degradation?

☒ No

☐ Yes

Report Name:

Part G. Certification of Antidegradation Review

G1. Applicant Certification

The form should be signed by the same responsible person who signed the accompanying permit application or certification.

Based on my inquiry of the person(s) who manage the system or those persons directly responsible for gathering the information, the information in this form and associated documents is, to the best of my knowledge and belief, true, accurate, and complete.

Print Name: Rosean Rowley

Signature: Rosean Rowley

Date: 10-21-13

G2. DWQ Approval

To the best of my knowledge, the ADR was conducted in accordance with the rules and regulations outlined in UAC R-317-2-3.

Water Quality Management Section

Print Name: NICHOLAS VON STACKELBERG

Signature: Nicholas von Stackelberg

Date: 3/14/2014

FILE COPY

STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Municipal Permit No. UT0020095

In compliance with provisions of the *Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended* (the "Act"),

THE CITY OF DUCHESNE, UTAH

is hereby authorized to discharge from its wastewater treatment facility located approximately one mile east of Duchesne City, with the outfall(s) located at latitude 40N 10' 10" and longitude 110E 21' 30" to receiving waters named the Duchesne River in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on March 10, 2014

This permit expires at midnight on February 28, 2019.

Signed this 10~~th~~ day of March, 2014.



John J. Whitehead
Acting Director

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

A. Description of Discharge Point. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number
001

Location of Discharge Outfall
A gated discharge pipe from the last cell on the northeast side of the lagoon system, located at Latitude 40° N 10' 10" and Longitude 110° W 21' 30"

B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum, or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by a bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations <i>a/</i>			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
BOD ₅ , mg/L	25	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
E-Coli, No./100mL	126	157	NA	NA
TRC, mg/L	NA	NA	NA	0.3
pH, Standard Units	NA	NA	6.5	9.0
TDS, Effluent, mg/l	Report	NA	NA	NA
TDS, Effluent, lbs/day /b	NA	NA	NA	2,000
Dissolved Oxygen, mg/L	≥ 5.0	NA	NA	NA

NA – Not Applicable

Self-Monitoring and Reporting Requirements a/			
Parameter	Frequency	Sample Type	Units
Total Flow c/ d/	Continuous	Recorder	MGD
BOD ₅ , Influent e/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
TSS, Influent e/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
E. coli	Monthly	Grab	No./100mL
TRC	Monthly	Grab	mg/L
pH	Monthly	Instantaneous	SU
TDS, Effluent	Monthly	Grab	mg/L
Dissolved Oxygen	Monthly	Instantaneous	mg/L

- a/ See Definitions, *Part VIII*, for definition of terms.
- b/ The total TDS discharged shall be limited to an average of 2,000 lbs/day (one ton per day) or 366 tons per year as a sum total from all discharge points.
- c/ Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- d/ If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- e/ In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

D. Reporting of Wastewater Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked or submitted through NetDMR no later than the 28th day of each month following the previously completed monthly reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part IV.G)*, and submitted to the Director, Division of Water Quality and to EPA at the following addresses:

original to: Department of Environmental Quality
 Division of Water Quality
 PO Box 144870
 Salt Lake City, Utah 84114-4870

II. INDUSTRIAL PRETREATMENT PROGRAM

A. Definitions.

For this section the following definitions shall apply:

1. Significant industrial user (SIU) is defined as an industrial user discharging to a publicly-owned treatment works (POTW) that satisfies any of the following:
 - a. Has a process wastewater flow of 25,000 gallons or more per average work day;
 - b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;
 - c. Is subject to Categorical Pretreatment Standards, or
 - d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.
2. Local Limit is defined as a limit designed to prevent pass through and/or interference. And is developed in accordance with 40 CFR 403.5(c).

B. Pretreatment Reporting Requirements.

Because the design capacity of this municipal wastewater treatment facility is less than 5 MGD, the permittee will not be required to develop a State-approved industrial pretreatment program at this time. However, in order to determine if development of an industrial pretreatment program is warranted, the permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1*, and submit it to the Division of Water Quality within **sixty (60) calendar days** of the effective date of this permit.

C. Industrial Waste Survey (IWS).

1. As required by *Part II.B.1*, the industrial waste survey consists of;
 - a. Identifying each industrial user (IU) and determining if the IU is a significant industrial user (SIU),
 - b. Determination of the qualitative and quantitative characteristics of each discharge, and
 - c. Appropriate production data.
2. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times. Updates must be submitted to the Director sixty (60) days following a change to the IWS.
3. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall notify the Director.

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4. Notify all significant industrial users of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource Conservation and Recovery Act* (RCRA).
5. The permittee must notify the Director of any new introductions by new or existing SIUs or any substantial change in pollutants from any major industrial source. Such notice must contain the information described in 1. above, and be forwarded no later than sixty (60) days following the introduction or change.

D. General and Specific Prohibitions

1. Developed pursuant to *Section 307 of The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any source of non-domestic discharge:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140°F (60°C);
 - b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;
 - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;
 - d. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at such volume or strength as to cause interference in the POTW;
 - e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104°F (40°C);
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g. Pollutants which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems; or,
 - h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.
 - i. Any pollutant that causes pass through or interference at the POTW.
2. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307 of the Water Quality Act of 1987 as amended (WQA)*. (See 40 CFR, Subchapter N, Parts 400 through 500, for specific information).

E. Signification Industrial Users Discharging to the POTW.

The permittee shall provide adequate notice to the Director and the Division of Water Quality Industrial Pretreatment Coordinator of;

1. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to *Sections 301 or 306* of the *WQA* if it were directly discharging those pollutants;
2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and
3. For the purposes of this section, adequate notice shall include information on:
 - a. The quality and quantity of effluent to be introduced into such treatment works; and,
 - b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.
4. Any SIU that must comply with applicable requirements under *Subtitles C and D* of the *Resource Conservation and Recovery Act (RCRA)*.

F. Change of Conditions.

At such time as a specific pretreatment limitation becomes applicable to an industrial user of the permittee, the Director may, as appropriate, do the following:

1. Amend the permittee's UPDES discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable national pretreatment limitation;
2. Require the permittee to specify, by ordinance, contract, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the *General Pretreatment Regulations* at *40 CFR 403*;
3. Require the permittee to monitor its discharge for any pollutant, which may likely be discharged from the permittee's facility, should the industrial user fail to properly pretreat its waste; and/or,
4. Require the permittee to develop an approved pretreatment program.

G. Legal Action.

The Director retains, at all times, the right to take legal action against the industrial user and/or the treatment works, in those cases where a permit violation has occurred because of the failure of an industrial user to discharge at an acceptable level. If the

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permittee has failed to properly delineate maximum acceptable industrial contributor levels, the Director will look primarily to the permittee as the responsible party.

H. Local Limits

If local limits are developed per R317-8-8.5(4)(b) to protect the POTW from passthrough or interference, then the POTW must submit limits to DWQ for review and public notice, as required by R317-8-8.5(4)(c).

III. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

- A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.
- C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10 and 40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- F. Records Contents. Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) and time(s) analyses were performed;
 4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and,
 6. The results of such analyses.
- G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

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H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.
2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment;
 - b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part IV.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part IV.H, Upset Conditions.*);
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit; or,
 - e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected;
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.

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5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results*.
- I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part III.H.3*
- J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;
 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,
 5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

IV. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at *Part IV.G, Bypass of Treatment Facilities* and *Part IV.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to paragraph 2 and 3 of this section.
2. Prohibition of Bypass.
 - a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
 - (3) The permittee submitted notices as required under *section IV.G.3.*
 - b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections IV.G.3.a (1), (2) and (3).*
3. Notice.
 - a. *Anticipated bypass.* Except as provided above in *section IV.G.2* and below in *section IV.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:
 - (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages;
 - (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

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- (3) Description of specific measures to be taken to minimize environmental and public health impacts;
 - (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,
 - (6) Any additional information requested by the Director.
- b. *Emergency Bypass.* Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *section VI.G.3.a.(1) through (6)* to the extent practicable.
- c. *Unanticipated bypass.* The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part III.H, Twenty Four Hour Reporting*. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
- 2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under *Part III.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,

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- d. The permittee complied with any remedial measures required under
Part IV.D, Duty to Mitigate.
- 3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

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V. GENERAL REQUIREMENTS

- A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.
- B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.
- E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.
 - 1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

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2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
3. Changes to authorization. If an authorization under *paragraph V.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph V.G.2.* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
- H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

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- I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.
- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new permittee if:
 - 1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
 - 2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
 - 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.
- O. Water Quality - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the

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appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
 2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
 3. Revisions to the current CWA § 208 areawide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.
- P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state or federal regulations.

Should the RCWRF change their disposal methods or the biosolids generation and handling processes of the plant, the RCWRF must notify the Director at least 180 days in advance. This includes, but is not limited to, the addition or removal of any biosolids treatment units (e.g., digesters, drying beds, etc.) and/or any other change that would require a major modification of the permit.

- Q. Toxicity Limitation - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;
- R. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting

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requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VI. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for e-coli bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for e-coli bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.
2. The "30-day (and monthly) average," other than for e-coli bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for e-coli bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
3. "Act," means the *Utah Water Quality Act*.
4. "Bypass," means the diversion of waste streams from any portion of a treatment facility.
5. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
 - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

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- c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous sample volume, with sample collection rate proportional to flow rate.
- 6. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
 - 7. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
 - 8. "EPA," means the United States Environmental Protection Agency.
 - 9. "Director," means Director of the Utah Water Quality Board.
 - 10. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
 - 11. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
 - 12. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - 13. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.